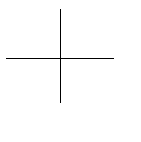
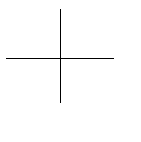
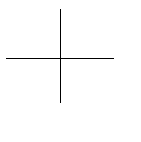
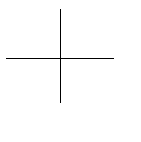
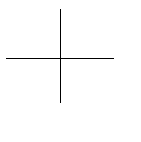
U3D2 WS Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per \_\_\_\_\_\_\_\_\_

Sketch a graph of each function using the three critical points.

1. F(x) = x2 2. F(x) = 3. F(x) = 4. F(x) = x3 5. F(x) = x



Describe in words how the parent function is moving.

6. F(x) = (x-3)2 - 2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. F(x) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. F(x) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

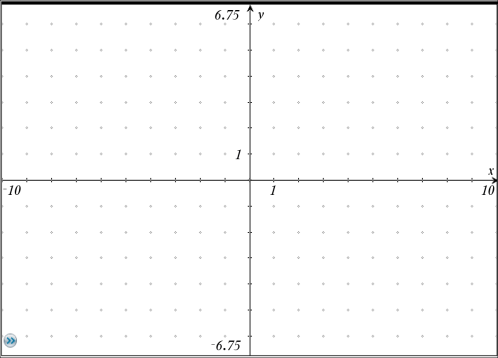
9. F(x) = x3+4 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. F(x) = x -1 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

State the parent function and graph the three critical points. Then with another color move the points according to the transformation and graph it.

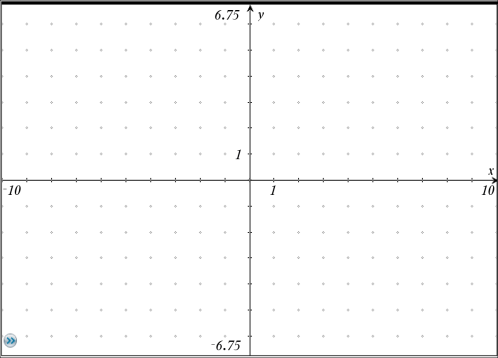
11. F(x) = (x + 2)3 -1 12. F(x) =+ 2 13. F(x) = 1

parent \_\_\_\_\_\_\_\_\_\_\_\_ parent \_\_\_\_\_\_\_\_\_\_\_\_ parent \_\_\_\_\_\_\_\_\_\_\_\_

14. F(x) = x2 - 3 15. F(x) = x -5 16. F(x) =+6

parent \_\_\_\_\_\_\_\_\_\_\_\_ parent \_\_\_\_\_\_\_\_\_\_\_\_ parent \_\_\_\_\_\_\_\_\_\_\_\_

Another parent function that we will see in a later chapter is f(x)=, where b is a number. This is called an exponential function. The three critical points for this graph are (-1, ), (0,1) and (1,a). This graph cannot pass the x-axis for the parent function. It is called a horizontal asymptote. When the graph moves up or down the asymptote has to move the same amount. So, take a look at the following function and graph it according to the transformation rules we have learned.

17.

